

## HIGH PERFORMANCE DESIGN GRANT RECIPIENTS

### March 2006

The Governor's Office of Energy Management and Conservation (OEMC), has awarded a total of \$519,000 in 28 high performance design grants, since 2000. The grants, in amounts of \$6,000 to \$25,000 each, help state and local governments design energy-efficient and environmentally sensitive buildings, while meeting their design-construction budgets and schedules. The grants are awarded through the Rebuild Colorado program of OEMC to promote high performance design, which can yield better, more cost-effective buildings by employing a teamwork approach and innovative strategies in the design process.

The grantees use the funding to incorporate the US Green Building Council's Leadership in Energy and Environmental Design (LEED®) rating system into their building design. LEED provides a framework for high performance design that considers sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

Incorporating high performance design into buildings brings potential long-term benefits through energy savings and increased overall comfort. These buildings experience lower utility bills for the lifetime of the building. Also, the buildings have improved indoor air quality, more comfortable interiors, a more productive environment, and reduced environmental impact.

High Performance Design Grant Recipients (listed alphabetically):

- **Academy of Charter Schools** for construction of the 135,000 square foot K-12 school in Westminster. The school, located at 120th Avenue and Lowell, used the LEED scorecard and includes innovative daylighting and energy efficiency features. *Contact: Robert Hughes, Director of Development, [robert.hughes@adams12.org](mailto:robert.hughes@adams12.org), 303-289-8088 ext. 302*
- **Alliance for Sustainable Colorado** for signage for a self-guided tour of The Alliance Center, located at 1536 Wynkoop Street in Denver. The Center is a showcase of sustainable design features and provides spaces for non-profit organizations focusing on sustainability issues. The signage will highlight the energy-efficient design process, waterless urinals and other innovative features for visitors. *Contact: Jana Six, [jsix@frii.com](mailto:jsix@frii.com), 303-572-1536*
- **Children's Museum of Durango**, in collaboration with the City of Durango for a hands-on energy and science museum, including renovation of a historic 1893 powerhouse and rehabilitating a brownfield adjacent to the Animas River. *Contact: Jeff Vierling, Project Manager, [jeffv@exmsft.com](mailto:jeffv@exmsft.com), 970-259-9841.*
- **[Colorado Department of Labor and Employment \(CDLE\)](#)** for construction of the 40,000 square foot office addition at 251 East 12th Avenue, in Denver. The completed addition was the first state agency in Colorado to receive LEED certification, and was recognized by Colorado Construction Magazine as a 2005 Top Project. The building



was completed within the original budget and timeline, and includes many features that benefit employees such as daylighting and views for the staff of the unemployment claims call center. *Contact: Lance Shepherd, Architect, [lance.shepherd@state.co.us](mailto:lance.shepherd@state.co.us), 303-866-3450.*

- **Colorado Springs School District 11** for two grants: the first for the development of design guidelines and the second for the design of two elementary schools and a large high school addition. The district is a leader in the use of geoexchange and has set aggressive energy and water use targets for the new schools. *Contact: Thomas Fernandez, [fernatom@d11.org](mailto:fernatom@d11.org), 719-477-6011.*
- **Colorado State University (CSU)** received grants for three unique projects on campus:
  - **Green Classrooms of Guggenheim** interior renovation was managed by CSU students studying green building strategies and materials, in association with the Institute of the Built Environment (IBE). The project is targeting LEED-CI (Commercial Interiors) certification for the project. *Contact: Brian Dunbar, Director Institute for the Built Environment, [dunbar@cahs.colostate.edu](mailto:dunbar@cahs.colostate.edu), 970-491-5041*
  - **Academic Village** is a 170,000 square foot living and learning center for students. *Contact: Greg Smith, Project Manager, [gsmith@users.fm.colostate.edu](mailto:gsmith@users.fm.colostate.edu) 970-491-0150*
  - **Transit Center** is a joint project with CSU and the City of Fort Collins. The Center will be a 15,000 square foot addition on the north end of the existing Lory Student Center. *Contact: Cass Beitler, Project Manager, [cass.beitler@colostate.edu](mailto:cass.beitler@colostate.edu), 970-491-0158*
- **Denver Health** for a 217,000 square foot addition to the hospital complex that serves a quarter of all Denver residents. The Far Western Addition will add 107 beds, in a project funded by a bond initiative passed by Denver voters in 2003. Construction began in 2004 and is expected to be complete in 2006. The hospital is targeting LEED certification. Water and energy efficiency strategies were developed that enabled the addition to reduce its energy consumption by 19% compared to a code-compliant, hospital building of the same size. *Contact: Stephanie Thomas, Chief Operating Officer, [Stephanie.Thomas@dhha.org](mailto:Stephanie.Thomas@dhha.org), 303-436-5513*
- **Denver Justice Center** for the new \$378 million new Justice Center (courts, detention facility and parking structure) to be built in downtown Denver. Approved by voters in May of 2005, the Justice Center will be comprised of three separate buildings to be owned and operated by the City: a detention center (509,000 gsf), a courthouse (320,750 gsf), and a parking garage (254,000 gsf). As part of the Mayor's commitment to sustainable development, this center is to be the first city project built to the USGBC's LEED-NC standards and is intended to be the "flagship" for introducing LEED concepts into the city, as well as for development of a comprehensive citywide high performance building policy. *Contact: Beth Conover, Office of the Mayor, [beth.conover@ci.denver.co.us](mailto:beth.conover@ci.denver.co.us), 720-865-5429.*
- **Denver Zoological Foundation** for a new 10-acre Asian Tropics Exhibit to house endangered Asian elephants, Malayan tapir and other species. The Tropics design team used the grant to find innovative water heating strategies that utilize a combination of solar energy, heat recovery from waste water, heat recovery from on-site power generation. These strategies, along with natural ventilation and daylighting are estimated to cut energy use by 30 percent compared to a code-compliant building. Project construction is scheduled to begin in 2007. *Contact: Craig Piper, Vice President, [cpiper@denverzoo.org](mailto:cpiper@denverzoo.org), 303-376-4881.*
- **Falcon School District (El Paso County)** to develop high performance design guidelines for the district's current and future school building projects. The guidelines outline strategies for design and construction per the sixteen divisions of the Construction Specification Institute and are available for use by other Colorado school districts. *Contact: Henry Reitwiesner, Director of Auxiliary Services and Construction Management, [hreitwiesner@d49.org](mailto:hreitwiesner@d49.org), 719-494-8770*

- **Fort Collins Police Services Facility** for a 93,000 square foot center, to be occupied in 2008. The facility will provide spaces for a wide variety of services from evidence storage and arrest processing, to administration, dispatch and community rooms. The City of Fort Collins is targeting LEED Silver certification. Contact: Ron Kechter, Project Manager, [rkechter@fcgov.com](mailto:rkechter@fcgov.com), 970-221-6805
- **Mesa State College** for a planned 33,000 square foot business and technology building, pending funding approval. Contact: Erik Van de Boogaard, Director of Facilities, [evandebo@mesasate.edu](mailto:evandebo@mesasate.edu), 970-248-1334
- **Peyton School District** for construction of a new high school in the town of Peyton in El Paso County. The design team used the grant to apply LEED principles to the project. The use of the grant prompted the team to include commissioning, energy modeling, and use of regional and recycled materials. The team also used daylighting as much as possible within the strict budget, resulting in daylighting in 69% of the regular classrooms. Contact: Tim Kistler, Superintendent, [kistlertsk@aol.com](mailto:kistlertsk@aol.com), 719-749-2330
- **Poudre School District** for design guidelines and for the design of the prototype elementary school. The district transformed the processes from a linear architect to engineer design, to an integrated design process involving maintenance staff, curricula staff, and experts with the architects from the beginning of the design. The district is a leader in applying high performance design with tight budgets, and has successfully used these principles on Zach Elementary, Bacon Elementary, Fossil Ridge High School and Kinard Junior High School. Contact: Stu Reeve, Energy Manager, [stur@psdschools.org](mailto:stur@psdschools.org), 970-490-3502
- **Rocky Mountain Academy at Evergreen (RMAE)** for a new 60,000-foot charter school in Evergreen, scheduled to open in 2007. Begun in 2003, the school has set ambitious design targets such as being able to operate the school during daytime without any electric lights being used. Contact: Jere Percy, Director, [jpercy@jeffco.k12.co.us](mailto:jpercy@jeffco.k12.co.us), 303-670-1070, x 234
- **Town of Nederland** for rebuilding and renovating the 30,000 square foot Nederland Community Center. The design team is targeting LEED certification and is planning to include photovoltaic panels to provide one-third of the center's electricity. Contact: Laura Farris, Nederland Board of Trustees and Community Center Advisory Board Chair, [HomeOnEarth@msn.com](mailto:HomeOnEarth@msn.com), 303-258-0600
- **Town of Snowmass** for a new 15,000 square foot multi-use town hall. The project design is scheduled to be completed in late 2006, with construction beginning in 2007. Contact: Jason Haber, Economic Resources Director, [jhaber@tosv.com](mailto:jhaber@tosv.com)

**A High Performance Design Success Story**

**Poudre School District** issued a challenge: Take the best performing school in the district, and beat it. Make it a place that students and teachers want to spend their days, with more daylighting and low toxicity paints and materials. Add air conditioning, but don't increase the utility bills. Use recycled and recyclable products. Make the building itself serve as a learning laboratory. Use landscaping that saves water. Make sure it's easy and uncomplicated to maintain. Oh, and one more thing, build it for no added cost!

"The traditional design approach sets minimum requirements, but doesn't push design teams to come up with the best achievable design," said Mike Spearnak, the district's Director of Planning, Design and Construction. "We encouraged designers to create a school that would set a new standard in learning environments, yet fit within a typical school budget."

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## Challenging Designers: Zach and Bacon Elementary

**Focus on the Classroom**

"Kids spend most of their time in the classroom, so we focused the creative energy and analysis on the classroom design first and worked our way out," said Spearnak.

"Our goal was to make every classroom terrific with good daylighting and views, minimal glare, windows that can be opened, good ventilation and year-round comfort." Energy and daylighting modeling helped optimize the classroom design.



Students in Diane Gilbert's Explorer LAB class lead tours of Bacon Elementary.



The slope of the ceiling, window type and placement, and more all impact visual comfort in the classrooms.

**Does High Performance Cost More?**

Overall, no. Initial design fees were higher, but construction costs were lower. Construction costs for Zach Elementary came in under budget at \$100 per square foot.

The district paid more for the design (10% instead of the usual 7% to 8%). "We wanted our design team to spend extra time to optimize the design, and that costs more," said Spearnak.

"The district's added design expense will continue to reap benefits in lower utility bills, and as future schools are built using this design."

**"We can't afford not to build schools like these."**

- Mike Spearnak



- **University of Colorado at Boulder** received grants for two new student-funded buildings. Both buildings are targeting LEED Silver certification and scheduled to open in 2006. *Contact: Moe Tabrizi, Environmental Coordinator, [tabrizi@colorado.edu](mailto:tabrizi@colorado.edu), 303-492-1425*
  - **Alliance for Technology, Learning and Society (ATLAS)** is designed to be a 66,000 square foot campus-wide teaching and learning center at the heart of CU-Boulder campus.
  - **The School of Law** is under construction and will be a 160,000 square foot state-of-the-art facility for law education.
- **University of Colorado at Colorado Springs** received two grants. *Contact: Glenn Carlsrud, Campus Architect, [gcarlsru@uccs.edu](mailto:gcarlsru@uccs.edu), 719 262-3352*
  - **Science and Engineering Center** is a four phase capital project to create a state of the art science and engineering center on campus.
  - **Recreation Center** is a student-funded project that is targeting LEED certification for this 54,000 square foot facility.
- **Weld County RE-5J School District** for a new elementary prototype school and several remodel projects. The district used the grant to optimize the design of Johnstown Elementary School, which opened in August 2005. The school leveraged its location next to a city park to provide low cost storm water retention and irrigation water use. Energy efficiency savings were achieved through commissioning, daylighting, and use of passive cooling and operable windows all while keeping students comfortable. Future District 5J elementary schools will be based on the design of the Johnstown Elementary School, for repeat benefits. *Contact: Marty Foster, Superintendent, 970-587-6050, [mfoster@weldre5j.k12.co.us](mailto:mfoster@weldre5j.k12.co.us)*
- **West End School District** for new facilities and/or renovation of existing 135,000 square foot facilities to house the 400 students in the towns of Nucla and Naturita in western Colorado. The district used the grant to develop a Master District Plan to determine the optimal facility strategy for the under-used facilities in the district. With work complete in August 2004, results include a projected \$300,000 in annual operation savings, \$50,000 of which is from retrofitting buildings to be energy efficient and \$250,000 is from consolidating school district operations into fewer buildings. *Contact: Duane Denny, Superintendent, [duane\\_denny@westendschools.org](mailto:duane_denny@westendschools.org), 970-865-2290*
- **Western State College** for a privately funded two-story business school in Gunnison. The \$5 million 25,000 square foot facility is targeting LEED certification. *Contact: Rick Tonnesson, Associate Vice President for Facilities Services, [rtounessen@western.edu](mailto:rtounessen@western.edu), 970-943-7016*

## About Rebuild Colorado

OEMC developed the Rebuild Colorado program to help building owners identify and assess energy-saving projects in buildings, and then to capitalize on these savings. Rebuild Colorado provides free services to public buildings including: school districts, state agencies, higher education, cities, counties, hospitals, and multi-family buildings. Learn more about Rebuild Colorado online at [www.colorado.gov/rebuildco](http://www.colorado.gov/rebuildco). Contact Rebuild Colorado at [rebuildco@state.co.us](mailto:rebuildco@state.co.us) or call Linda Smith at 303-866-2100 or 1-800-632-6662.